

What is claimed is:

1. A mobile packet communication system comprising mobile terminals connected via a mobile radio communication network, subscriber nodes accommodating said mobile terminals, gate nodes connected to fixed equipment including Internet service providers or local area networks, and a plurality of location registration servers, one for each group of destination packet addresses having the same high-order digits, wherein said subscriber nodes, said gate nodes, and said location registration servers are interconnected by a network, and wherein:

20 said location registration servers each include a register which stores, for each mobile terminal assigned a packet address containing the high-order digit of packet destination address associated with said each location registration server, the address of the subscriber node currently serving said each mobile terminal, or stores, for each fixed equipment assigned a packet address containing said high-order

digit, the address of the gate node to which said each fixed equipment is connected;

a transmitting node, which is a subscriber node that received a packet from a particular mobile terminal or a gate node that received a packet from particular fixed equipment, includes means for retrieving the address of the corresponding location registration server by reference to the high-order digit of the destination address contained in said packet, and for transferring said received packet to said location registration server;

retrieved receiving node address to said transmitting node; and

2. A mobile packet communication system as  
claimed in claim 1, wherein said location registration  
server includes means for transferring the packet  
received from said transmitting node on to said  
receiving node, and said transmitting node includes  
means for transferring directly to said receiving node  
any n-th packet (n > 2) having the same destination  
address and received from said mobile terminal or said  
fixed equipment subsequently to the reception of said  
receiving node address from said location registration  
server.

3. A mobile packet communication system as claimed in claim 1, wherein said subscriber nodes, said

gate nodes, and said location registration servers are each assigned a unique Internet address for routing, and said network interconnecting said subscriber nodes, said gate nodes, and said location registration servers is  
5 constructed from a router network.

4. A mobile packet communication system as claimed in claim 1, wherein said subscriber nodes, said gate nodes, and said location registration servers are each assigned a unique ATM address for routing, and said 10 network interconnecting said subscriber nodes, said gate nodes, and said location registration servers is constructed using semi-permanent connections on an ATM network, and wherein said subscriber nodes, said gate nodes, and said location registration servers each 15 include means for transferring said packet by using adaptation layer AAL Type 5 protocol.

5. A mobile packet communication system as claimed in claim 1, wherein said subscriber nodes, said gate nodes, and said location registration servers are 20 each assigned a unique ATM address for routing, and said network interconnecting said subscriber nodes, said gate nodes, and said location registration servers is constructed using semi-permanent connections on an ATM

network, and wherein said subscriber nodes, said gate nodes, and said location registration servers each include means for transferring said packet by using adaptation layer AAL Type 2 protocol.

5       6. A mobile packet communication system as claimed in claim 1, wherein said subscriber nodes, said gate nodes, and said location registration servers are each assigned a unique address of adaptation layer AAL Type 2 for routing, and said network interconnecting  
10      said subscriber nodes, said gate nodes, and said location registration servers is constructed using semi-permanent connections of adaptation layer AAL Type 2 on an ATM network, and wherein said subscriber nodes, said gate nodes, and said location registration servers each  
15      include means for transferring said packet by using adaptation layer AAL Type 2 protocol.

7. A mobile packet communication system as claimed in claim 1, wherein said subscriber nodes, said gate nodes, and said location registration servers are each assigned a unique ATM connectionless address for routing, and said network interconnecting said subscriber nodes, said gate nodes, and said location registration servers is constructed from an ATM  
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connectionless network, and wherein said subscriber nodes, said gate nodes, and said location registration servers each include means for transferring said packet by using adaptation layer AAL Type 5 protocol or

5 adaptation layer AAL Type 2 protocol.

8. A mobile packet communication system as claimed in claim 1, wherein said subscriber nodes, said gate nodes, and said location registration servers are interconnected by switched virtual connections (SVCs) on

10 an ATM network.